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O B S E R V A T I O N S

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OBSERVATIONS
ON
POISONS;
AND ON THE
USE OF MERCURY
IN THE CURE OF
OBSTINATE DYSENTERIES.

By THOMAS HOULSTON, M.D.

LATE SENIOR PHYSICIAN TO THE LIVERPOOL INFIRMARY,
AND HONORARY MEMBER OF THE LITERARY AND PHI-
LOSOPHICAL SOCIETY OF MANCHESTER,
AND OF THE PHYSICAL SOCIETY OF EDINBURGH.

A NEW EDITION;

With Additions, Amendments, and an APPENDIX.

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THE following papers, most of which have appeared in different publications, though at different times and on different occasions, have such a relation to each other, as to be thought proper to be collected and reprinted together. In compliance with the sentiments of those who have judged favourably of them, and hoping, with them, that some utility to society might possibly thence result, they are now offered in a more commodious and less expensive form to the public.

AND as a proper introduction, serving to connect in some sort the whole together, I have prefixed a paper, which I drew up at the instance of a friend, who requested I would arrange, and transmit to him, my thoughts on the subject of Poisons, of which I had already treated in some casual and detached publications. And, if part of what is contained in these shall appear to be repeated therein, as it is done with brevity, it may probably stand excused, and answer in part the purpose of a recapitulation ;—though, in the
cir-

circumstances in which it was written, every one must perceive it was unavoidable.

To these, though not immediately connected with the subject, I added a paper not before published, but which I had sent to the Edinburgh Royal Medical Society, on the good Effects produced by Mercurials in cases of obstinate Dysenteries : to which are subjoined, Some further Observations on the Use of the Dry Vomit, and on the success attending the Method of treating Intermittents recommended by Dr Lind. To these are now added two recent instances of success attending the mode of treatment therein recommended.

THE Appendix consists of some other papers of a latter date than *those* contained in the former edition, which have a relation to *them*; and the insertion of which, it is hoped, will not prove displeasing to the Reader.

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OBSERVATIONS

ON

POISONS.

I.

A Summary Account of the several Poisons, and of the Means of counteracting their Effects.

AS the subject is avowedly of the highest importance, and one on which every person, concerned in medical practice; cannot have too clear and prompt ideas, it may not be an unprofitable labour; if we take a general view of the nature and effects of that class of substances which, given in small quantity, interrupt and destroy the vital functions; and, whilst we cannot but lament that their action is so sudden, so

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violent,

violent, and so certain, as frequently to render every effort to save life fruitless, it may be useful to point out those means which reason and experience show to be the most likely and most efficacious to counteract the baneful effects of the several kinds of poisons.

It is believed that, in former times, the knowledge of the different kinds of poisons, as well as of counter-poisons, was much further extended than it is at this day; and, happily, in this country, the art of poisoning has been less studied and perfected than in some of the more southern ones, where men are prompted and accustomed to take so base and cowardly a method to satisfy their jealousy or revenge. It is related, and credited, that in Italy, methods are known and practised, of poisoning persons, by giving them a drug which will not prove fatal till many months afterwards, or (which is more probable) producing the same effect by repeated imperceptible doses gradually undermining and destroying the health. May these, and the various kinds of poisons they are said to prepare and employ, ever remain a secret amongst us! It is a secret of too dangerous a nature for a man to wish to be in possession of.——The same may perhaps be said respecting the Woorara poison, with

with which the Indians smear the points of their arrows, which has been mentioned by Dr Bancroft in his History of Guiana. The smallest particle of this, introduced into the system by a wound, proves instantly fatal; and yet an animal so killed may be safely eaten, it being no longer a poison when introduced into the stomach.

THE poisons known amongst ourselves act, either mechanically or chemically, on the primæ viæ, or on the nervous system. Thus pounded glass has been given, and occasioned certain death, by bringing on inflammation of the stomach and intestines: thus sponge has been given to produce stoppage of the passage; and strong caustic alkali, swallowed hastily by mistake, has been followed by death. The former act mechanically only on the parts to which they attain; the action of the caustic alkali, though chemical, is also only topical; and did it not, even in its passage before it reaches the stomach, produce irreparable and fatal mischief, its power might be lessened by the mucus it met with, by oily or mucilaginous medicines, by fixed air, or by means of an acid exhibited.

THE poisons, however, the effects of which we

are commonly called upon to obviate, may be considered under the different heads of the mineral, vegetable, and animal poisons; upon each of which, it may be of use to make some few general observations.—Of the minerals, the saline preparations of mercury, lead, copper, and antimony, *i. e.* the solutions of these metals in different acids, are, in very small doses, useful and powerful medicines; but, given in no great quantity, are active and virulent poisons. When these have been taken, it has been recommended to dilute largely with water, to evacuate by vomits, and to blunt their acrimony by oil, milk, &c.: But no medicine will have so immediate and beneficial an effect as a solution of any alkali; which, uniting with the acid, decomposes the salt, and precipitates the metal in the form of a calx, nearly or wholly inactive. When this is done, the former methods may be used with much greater advantage.

It is surprising, that so obvious a remedy against the action of these metallic salts should not have been noticed by Tissot, Buchan, and others who have written on the subject; especially as these excellent authors wrote avowedly for the public. In the Edinburgh Medical Commentaries [(Vol. VI. Part 3.), I have endeavoured

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ed to supply this deficiency, and given a remarkable instance of the good effect of salt of tartar in the case of a woman at Liverpool poisoned with corrosive sublimate *. This is one of the most powerful of the metallic salts, and is also difficultly soluble in water: and as in this case it was swallowed in a solid form, it only acted, as it dissolved, gradually and repeatedly; the violent symptoms produced by its solution yielded, almost instantaneously, to the alkali †.

MEDICAL men are often called in to cases of poison, where the particular kind swallowed cannot be known. There, it is always prudent to give, instead of water alone, water in which an alkali is dissolved. If the ill effects arise from a metallic salt in the stomach, such as sublimate, sugar of lead, extract of lead, or tartar emetic, all future action of it will immediately be guarded against. And should it be arsenic, the most dangerous and insoluble of the metallic poisons, the addition of the alkali would serve to render the arsenic more easily soluble in water. In this case, however, the stomach should be washed

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with

* See, in the following pages, N^o II.

† An extraordinary instance of the same kind, I have related in the London Medical Journal, Vol. VI. p. 271.—
See Appendix, N^o VII.

with very large quantities, as arsenic requires about fifteen times its weight of water to dissolve it. And in all these cases, besides the alkali, it is advisable to give water most copiously, and also oil, and to promote vomiting as expeditiously as possible.

WE see, then, that with respect to mineral poisons, there is a rational ground of hope, that, by a proper management, they may be decomposed, their effects counteracted, and the danger resulting from their exhibition be guarded against and prevented.—But the poisons taken from the vegetable kingdom cannot be said to admit of such a remedy: we know no certain means of counteracting their effects; and all medical help is almost solely confined to attempting, as speedily as possible, to evacuate them. Nor can this be done even by the most powerful emetics; as the white vitriol, verdigris, or emetic tartar, unless they be administered at an early period, before the poison has rendered the stomach insensible to any stimulus, or has brought on such a degree of spasm as to create an impossibility of vomiting. For one or the other of these is the certain consequence of their continued action on the stomach; they then cannot be evacuated; and their continuance there is inevitably fatal.

Of

Of the suddenness and certainty of the action of poisonous vegetables, we have had two remarkable recent instances (in 1781): The one in the case of Sir Theodosius Boughton, poisoned by the distilled water of the lauro-cerasus, (frequently, but improperly, employed in cookery, in small quantity, under the name of Laurel Water *); which event gave rise to a useful work on the poisonous vegetables of this country by Mr Wilmer: The other, in that of a youth, poisoned accidentally at Liverpool, by eating the roots of the oenanthe or hemlock-dropwort; the circumstances attending which I published: they are inserted in the London Medical Journal for July, and (together with a plate of the plant) in the London Magazine for August 1781 †. Similar are the effects of the *cicuta aquatica* or water-hemlock; which, like the two former, almost certainly and speedily produces death. Mr Wilmer enumerates further the following indigenous plants of a poisonous quality, though their action is neither so speedy, nor so unavoidably fatal, as that of the foregoing ones.

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* The present Grand Duke of Tuscany, after being convinced of the dangerous consequences to be apprehended, has forbid the use of it in his dominions.

† See N^o III.

T H E

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| Hyoscamus Niger, | Henbane ; |
| Belladonna, | Deadly Nightshade * ; |
| Napellus Coeruleus, | Blue Monk's-hood ; |
| Cynocrambe, | Dog's Mercury ; |
| Stramonium, | Thorn Apple ; |
| Cicuta Major, | Common Hemlock ; |
| Agaricus Muscarius, | Bug Agaric ; and |
| Fungus Piperatus, | Pepper Agaric. |

The effects they produce, according to that gentleman, are, vertigo, faintness, delirium, madness, stupor, and paralytic or apoplectic symptoms. To obviate these, he advises the immediate exhibition of active emetics, cathartics, and glysters, and the copious use of some acidulous

* Children, and ignorant people, are often induced by their appearance to eat of the berries of this shrub. In Dodsley's Annual Register for 1780, we read of two women, who, gleaning in a field near Cambridge, were found nearly dead from this cause, and were successfully assisted by Mr Hoffman of that city. Other instances are there also brought of persons dying, or being almost dead, from having eat of these berries or the plant itself. The method Mr Hoffman recommended, and which he has before-time found to succeed, is this—To give a vomit as soon as possible ; and, in the course of the day, about a pint of vinegar or lemon juice, mixed with an equal quantity of water ; and to walk the patient about to prevent sleep, which he thinks would be fatal.

lous vegetable liquor, as weak sparkling perry or cyder; and for the paralysis which may afterwards remain, the usual means of sinapisms, blisters, and electricity. Tissot recommends, as what is chiefly to be depended upon in such cases, to give a large quantity of vinegar, besides the evacuants before mentioned; and says, that by means of these, together with large dilution, 37 soldiers, who had eat the hemlock drop-wort roots by mistake for carrots, were all saved except one, who died before he could be assisted. This celebrated author considers the noxious effects of these vegetable poisons as depending on their narcotic quality, and similar to those of opium.

OPIMUM is sometimes taken in too large a dose by mistake, sometimes by design; and occasions stupor, convulsions, apoplectic symptoms, and death, unless quickly and powerfully counteracted. Dr Mead has said much in favour of acids, in this intention, given with alkaline salts in repeated doses; but we ought probably to place a much greater dependence on promoting a speedy evacuation by the methods before proposed. It is also believed to be highly necessary to prevent the person from sleeping, by using every method to rouse the action both of the body

dy and mind, to stimulate the nose by volatile alkali, and the skin by blisters. Bleeding has been thought also of use, as lessening the determination of blood to the head, which there is some ground to fear every stimulating method may possibly contribute to augment. Dilution has been recommended in this case; but is much more indicated, and indeed seems almost solely to be relied on, when persons are dying from the effects of a poison not less certain, and which, as it is sought after with avidity, and swallowed with profusion, oftener calls for our attention. I mean the different kinds of ardent spirits, gin, rum, brandy, &c. which, besides bringing thousands gradually and silently to the grave, in very many instances prove fatal in a few hours when drunk in large quantity. The frequency of these accidents in the great sea-port town of Liverpool, drew my attention to a subject of such importance, and induced me to draw up what appeared to me the most eligible method of attempting the relief of persons thus unfortunately circumstanced. This paper *, which was dispersed in Liverpool, was reprinted and preserved in Dr Duncan's Medical Commentaries for 1780, Part III. I therein proposed, 1st, To evacuate the poison by the means before enumerated; or, 2^{dly}, To dilute it, and thereby weaken its action.

I

* See No IV.

I have advised also the warm bath, bleeding, blisters, warmth, friction, and motion; but have laid the greatest stress upon largely diluting that poison, which in such circumstances we in vain attempt to evacuate. This I proposed doing by passing a pipe, something like a catheter, beyond the glottis, and pouring down, through that, very large quantities of water only (which probably may be best cold), or of water mixed with vinegar, or with any acid. In the Reports of the London Humane Society for 1780, I have communicated the case of a soldier * whom I rescued from death by pursuing this mode of treatment.

THE last class of poisons, but on which I mean not here to enter minutely, is that of the animal ones. Amongst these we might reckon several morbid ones, particularly the venereal and variolous matter, which act on the system, inducing disease, and assimilating to their own nature the juices of the body into which they are admitted.

* “ ——— Bailey, one of the Cheshire militia, in very imminent danger from drinking brandy in a large quantity, by bleeding, diluents thrown down into the stomach by means of a pipe passed beyond the glottis, and proper attention, after remaining many hours in a very uncertain state, was with difficulty recovered.”

ted *. These are subjected to certain laws, and may be counteracted by certain means, appropriated for the cure of the particular diseases which they produce. It may not be amiss to observe, however, that the same means, mercury, is found to counteract, in some sort, both the variolous and venereal virus. But leaving these as the object of more general medical inquiry, I shall proceed to such as more particularly relate to our subject.

To remedy the bite of the viper †, of the scorpion, and other venomous insects, olive oil alone applied to the part *is related* to be sufficient; though for further security, it has been recommended to suck the wound, and to take vinegar plentifully. But we are much more commonly, and seriously, alarmed by the bite of a mad dog, or other mad animal: the frequent, though I believe we may assert by no means constant, effects of which are, heaviness, melancholy, hydrophobia (violent delirium), and a dreadful death. Various medicines, some of little utility,
and

* Some observations on the action of the variolous matter will be found in the Appendix, N^o VIII.

† The experiments made by the Abbé Fontana seem to ascertain, that the poison emitted by the bite of a single viper is not sufficient to kill a man.

and which ought not to be relied on, have gained reputation as preventives of these effects. These medicines are mostly such as take off irritation and spasm, as bathing, musk, and opium; or such as promote perspiration and the other secretions. Dr Mead speaks more highly than one would suppose it deserved of his medicine, of ash-coloured ground liverwort and pepper, joined with cold bathing. The public confidence has been much placed on a remedy kept a secret, prepared at Ormskirk in Lancashire by Mr Hill; but with what foundation that confidence has been placed therein, appears from its having failed of success in several instances, but particularly in that of Mr Bellamy of Holborn, of which the late ingenious Dr Fothergill gave the public a circumstantial account *. Nor will the following receipt for the making the Ormskirk medicine, communicated by a medical friend, and obtained from an authority which it seems with good reason may be depended upon, increase our expectations of success from its use.

Take elecampane, flowers of sulphur, liquorice powder, oyster-shells burnt, of each as
much

* Some observations on the Hydrophobia, and on the efficacy of this medicine, are proposed to be added to the Appendix.

much as will lie on a shilling; alum, turmeric, bole armeniac, all in powder, of each as much as will lie on a sixpence, mixed.

FROM this, which is strongly believed to be the original receipt, some small deviations are made, *e. g.* a larger proportion of bole is now added*. Cobb's Powder, or the East India Specific, being a mixture of cinabar and musk, promises much fairer. Mercurials, especially if used till they bring on an increased secretion from the salivary glands (which seem a principal seat of the disease, or at least are the parts to which it has the principal determination), afford a much more rational ground of hope. Although many respectable characters have declared, that nothing yet known could be depended upon to cure the hydrophobia, or scarcely to prevent it; yet we may place some degree of dependence on mercury, if there be only time to produce salivation, and if its exhibition be pursued with regularity and perseverance. To judge properly on this subject, we should attend to what has been said upon it by the late Dr James, who first proposed

* It is observable, that Dr Heisham (de Rabie Caninâ), from analysis, concludes Hill's medicine, which he examined nicely, to be compounded nearly of these ingredients, with the addition of a few drops of oil of aniseeds.

posed the mercurial treatment in his Essay on Canine Madness, and by many other writers, particularly amongst the French, who have pursued this idea with advantage; Sauvages especially. A small work published by authority at Paris, of which I have given an abstract in Dr Duncan's Medical Commentaries, Vol. VIII*. lays down as the most successful, a mode of treating persons bit by mad animals, of which salivation appears to be the basis, if not the only essential part; though they endeavour to prevent the mercury salivating by purging every four or five days, and lay the great stress on the external application of the mercurial ointment round about the part which is bitten, and to the edges of the wound, which should be enlarged and brought to suppurate.

OF fifteen persons bit nearly at the same time by a mad wolf in December 1775, in the district of Macon, eleven were treated in this manner by Monsieur Blais, a physician at Cluny; and the four who were not treated thus died in a few days raving mad. Of those under this gentleman's care one died with the true hydrophobia (though without convulsion or any violent symptom), after pursuing the treatment regularly ten days:

* See No V.

days: a second died much in the same manner; after using it near a month; during which time, however, he had made a practice of drinking privately to great excess: and a third, a boy, died at the expiration of six weeks under the care of his friends, not with any symptom of madness, but from a caries of the skull neglected. (A fourth also died with the hydrophobia six weeks after having passed through the treatment; but as, subsequent to it, he had exposed himself to fresh danger from a like cause, it is not clear that he should be included in this number.) The remaining seven recovered: in most of them salivation took place, and in all the incisions were continued a month or more. From these, and other like instances, there seems reason to conclude, that, not on the quantity of mercury administered, but on its bringing on salivation in time, depends the only rational ground of security from canine madness. But in preference to any medicine, one should advise, when it can be done, *the immediate removal of the part bit*; destroying either by the knife, caustic, or the actual cautery, all the flesh in which may be lodged so formidable and fatal a virus; the effects of which are gradual, and in this respect similar to those of the matter used in inoculation.

It may not be improper to add here some considerations suggested by the following accident. In the evening of December 14. 1783, an old woman, a nurse in the Liverpool Infirmary, privately took into her bed-room, which had no chimney, an iron pot with some lighted charcoal, by the vapour of which she was probably soon destroyed; and in the morning, on forcing the door open, was found dead.

Nothing can be more dangerous or destructive than the vapour emitted by burning charcoal; of the effects of which Dr Guthrie, physician at Petersburg, has given a very curious account in the Philosophical Transactions for 1779, Vol. LXIX. He observes, that accidents from this cause are so frequent in Russia, and are there so familiar to the people, that medical assistance is never called in to remedy them. The Russians heat their apartments by means of stoves, in which they burn wood; and, to save fuel, when the wood is burnt quite clear and bright, they close up the vent or chimney of the stove to keep in the heat. But if, as often happens from negligence and inattention, any bit of wood remain not burnt clear, but of a blackish colour, the noxious vapour or *ugar* is certain to spread itself through the chamber, and is productive of

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the following effects. All the persons in the room are affected with a drowsiness, and a reluctance or inability to move; and, if unaccustomed to it, with a nausea and an inclination to vomit. Any one disposed to sleep falls into so sound a sleep, as renders it difficult to awaken him; nor is sensible of any pain or inconvenience. A little before death, however, he groans so as sometimes to call to his relief those who are near. The steps taken to assist him, and which frequently succeed, if removed or discovered within an hour from the commencement of this insensible state (beyond which time they think all probability of succeeding at an end, though in this they are perhaps mistaken), are these. He is carried out and laid upon the snow almost naked: his stomach and temples are then well rubbed with snow; and they pour cold water, or milk, down his throat. These frictions are continued till the body is restored from a livid to its natural colour, and life returns. A violent headache, which often remains, they cure by binding on the forehead a poultice of rye-bread and vinegar.—It is a very curious fact which the same gentleman informs us of, that effects, perfectly similar, are produced (which are remedied in the same manner), by “an incrustation
“formed on the insides of the glass-windows-
“ du-

“ during severe frost, composed of condensed
“ breath, perspiration, &c.—the phlogiston of
“ candles, and of the stove ; which, when con-
“ verted into water by a thaw, lets loose a prin-
“ ciple producing all those terrible effects on the
“ human body, which the principle emitted
“ from charcoal is so well known to do in this
“ country (Russia), where people every day suf-
“ fer from it.” They cannot be persuaded,
however, that these effects are occasioned by a
cause apparently so trifling ; but attribute them,
without the least foundation, to the former one,
a mismanagement of the stove. By this account
we find, then, that exposure to free air, and
continued frictions, succeed in recovering per-
sons in these circumstances. Dr Guthrie thinks
the cold applied may probably contribute there-
to, “ by some how or other freeing the body
“ from the load of phlogiston with which the sy-
“ stem seems to be replete ;” as the person be-
comes considerably colder, when recovering,
than when first brought out of the room.

A mode of treatment differing, however, in
this respect, the application of warmth, has been
found successful, in restoring to life persons near-
ly dead from a cause apparently similar,—the
vapour emitted from burning lime-stone ; of the

fatal effects of which we have had repeated instances. Some years ago a very fatal accident happened from this cause: in Liverpool, where the vapour from a lime-kiln penetrated through the wall of a house adjoining, and occasioned the death of several persons. In the Reports of the London Humane Society for 1778, I have related the circumstances of two women, who, having lain down to sleep in a hut built adjoining to a lime-kiln to keep the tools in, were found, a few hours afterwards, the one dead, the other nearly so; but by care, and diligent perseverance for several hours in employing the means recommended by that excellent institution, she was with difficulty recovered *.

GREAT

* June 26. 1785. In the morning, a man was found lying on one of the brick-kilns near St John's church, Liverpool, in such a state of stupor and insensibility, that he appeared to be almost dead. He was sent up to the Infirmary, where the proper means for recovering him were employed. He was let blood, and gradually came to himself. The account he gave was, that, having been left to watch the fire, feeling himself cold, he had lain down on the brick-kiln and fallen asleep: that he awoke, and attempted to get up, but felt himself not able to do it; he therefore sunk down again, and remained insensible of every thing that happened, till he found himself in the Infirmary; and had it not been for the assistance there afforded him, he concludes he should have died.—It is a cu-

rious

GREAT numbers of people have been destroyed, almost instantaneously, by sudden exposure to mephitic vapours, the gas emitted by fermenting liquors (in the large vessels of breweries), air long confined and stagnating, in wells, vaults, privies, &c. From some parts of the earth there arise vapours highly noxious and injurious to animal life; as for instance from the Grotto del Cane in Italy*, in which an animal exposed to

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them

rious object of inquiry, whether there is any thing noxious in the vapour from a brick-kiln similar to that from a lime-kiln, which gradually produces stupor and death in the persons long exposed to it. It is certain that the suffocating smell from both is not much unlike.

* It has been doubted, whether this vapour is really deleterious in its nature, or only, by its density, unfit for respiration, and therefore occasions the death of animals immersed in it. In this idea, in the winter of 1768, Richard Paul Jodrell, Esq; (a gentleman well known in the literary world as a man of genius and erudition) and I, tried the effect of it upon a viper, which we had procured for that purpose. It was no sooner plunged into this vapour in the grotto (*which* arises apparently about a foot in height) than it manifested evident signs of its being greatly incommoded. It endeavoured to get to the walls; and being prevented, raised its head up as much as it was able, opened its jaws wide, seeming to gasp for breath, and after nine minutes became motionless; but being then thrown out into the open air, soon recovered. Dogs, who generally are subjected to this experiment, are nearly dead in less than

them a very short time is inevitably destroyed, but, if withdrawn before it be quite dead, and laid in the open air, it will gradually recover; though in consequence of such experiment, especially if repeated, its life is said to be much shortened, and that it will linger for a few months and then die. This has a property which is common to the other mephitic vapours, and which affords an opportunity of detecting their presence, and guarding against them. They extinguish flame; and it is therefore highly imprudent for any one to venture down into a place long shut up, without first trying, by letting down a candle, whether the air be such as will admit of its continuing to burn, and, of consequence, may safely be respired.

WHEN life is suspended, and apparently destroyed,

than half that time; but this reptile was made choice of, as it is known to be, if I may use the expression, peculiarly tenacious of life. That it will live long without any supply of air or food, is very certain; and the one I am now speaking of accidentally furnished a sufficient proof of it. When recovered, it was replaced in the box in which we had brought it, and was shut up close, and carried back with us to Naples, where it was laid by and forgotten, till on Mr Jodrell's preparing to leave that city three weeks afterwards, the box was again found, and the viper in it, alive and vigorous.

stroyed, from exposure to mephitic vapours, the immediate removal of the body, and placing it in the open air, is of the most urgent necessity, and will alone, sometimes, be sufficient to bring about a recovery. But it will frequently, in such cases, be proper to have recourse to frictions, inflation of the lungs, and the other means recommended by the Humane Society;—an institution which does great honour, and has rendered important service to the cause of humanity; which owes its introduction amongst us to the laudable zeal and exertions of Dr Cogan and Dr Hawes; and its support, to that spirit of benevolence and compassion which forms so bright and striking a feature in the national character.

II.

Observations on Mineral Poisons.

IT did not, for some time, occur to me, that in treating of the antidotes, or remedies, for mineral poisons, alkaline salts are omitted to be recommended, both in Tissot's Advice to the People, and Buchan's Domestic Medicine ; books very generally read and esteemed. As the effects of these poisons are often so sudden as not to admit of calling in medical assistance, it seems the more necessary to add this remedy to those recommended for common use to the people ; and as the following history of facts will tend to demonstrate the importance, and to establish the reasonableness of this practice (although it happened some years ago), I have thought it might be productive of good to society that it should be more extensively known.

IN 1774, one Jones, a cow-keeper of Liverpool, was convicted at the Lancaster assizes of
poison.

poisoning his sister-in-law, in revenge for her having opposed him in the sale of some property, of right belonging to the children of her sister, his former wife. Under an appearance of reconciliation, he had treated her, and the wife of the intended purchaser William Ashcroft, one morning at a public house, with some ale, which he himself had warmed. He put sugar in it, and had repeatedly poured it backwards and forwards from one cup into another. The sister-in-law went thence into the neighbourhood of Ormskirk (thirteen miles distant), where, in a few days, she died. The coroner could not attend as soon as was desired, and the body was in a very putrid state when it was opened. In the stomach were found some small particles of what was judged to be corrosive sublimate; but of this circumstance I was not informed till after the other woman was better.

Mrs Ashcroft came to me, May 5. a week after her drinking this ale. Immediately after she took it, she set out to go to Prescot (seven miles), part of the way in a carriage, the rest on foot. She had not gone far before there came on a violent pain in her stomach, with continued vomiting and intolerable thirst, so that she stopped to drink water almost at each ditch. Her
tongue,

tongue, from her own account too, was considerably swelled. After much vomiting she was somewhat relieved ; but, to the time she applied to me, she had continued to vomit up every thing she took, and complained of a heat and pain in her stomach ; at some times much more violent than at others. As she seemed not in much pain then, and had vomited so frequently, I only advised her, whenever she was sick, to wash her stomach plentifully with camomile tea ; hoping, that in a little time the vomiting might be checked. The account of the death of the other woman alarmed her greatly (as they had drank out of the same cup), and on the 7th in the evening she was extremely ill ; her stomach swelled, and was violently painful, and she could scarcely speak to be heard. On considering the story she had told me, of the man's having put sugar in the ale, and bestowed so much pains in mixing it thoroughly, it occurred to me, that the poison added might probably be corrosive sublimate, which does not easily dissolve, and that some of it having been swallowed undissolved, might remain in that state enveloped in the mucus, and attached to the coats of the stomach ; which, as it gradually dissolved, irritated, and caused heat, pain, and vomiting. In this idea, I gave her a few spoonfuls of a solution of salt of tartar, with

a view to decompose the sublimate ; and she had no sooner swallowed it than she was easier. A little while after she took a vomit, and I caused some blood to be taken away to guard against inflammation of the stomach : she was much better the next day, eat her dinner well, and did not vomit ; but on the 9th at night the pain returned with great violence, and yielded, as expeditiously as before, to the solution of salt of tartar. I now first heard of there being something found in the stomach of the other woman, supposed to be sublimate ; and on questioning my patient, learned that she had always been most relieved when, after several efforts, she had vomited up a small quantity of something which, as she herself expressed it, tasted like milk which had stood in a brass-pan. From these concurring circumstances, I had now no longer doubt of the poison being, as I had supposed it, sublimate ; and, from the return of the symptoms, concluded that there was still some of it retained, whose solution and action was only very gradual. After repeating the vomit, I advised her to continue constantly the solution of salt of tartar. This, however, she had neglected ; and on the 11th she had a fresh attack, which yielded readily to a repetition of the same means. As her objection to the salt of tartar was its disagreeable taste,

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taste, I ordered her some pills, containing each three grains of it, which (convinced of the necessity) she did not omit taking. On the 15th she was perfectly well, and so continued.

THE conclusion I would draw from hence is this: In all cases of poison, it is prudent immediately to give a solution of an alkali, followed by a vomit. If the poison be corrosive sublimate, an alkali, either fixed or volatile, will decompose it, and precipitate the metal in a form nearly inoffensive*. It will have a similar effect on the sugar of lead, the extract of lead, emetic tartar, or any metallic salt. If the poison be arsenic, Newmann observes, *that alkalies will very plentifully dissolve it*. And if so, as it is difficultly soluble in water, the vomit will then succeed the better to discharge it. Whether or no sulphur, exhibited in any form, might lessen the danger of arsenic, is not clear, though these two, when united, are not poisonous. If the poison be of the vegetable class, an alkali can be of no disservice, nor interfere with the other means of remedying by evacuation; nor yet by the subsequent use of acids, so strongly insisted on by Tissot, as counteracting the effects of narcotics; since acids given together with alkaline salts, are
pro-

* See Appendix, No VII.

pronounced to be attended with great success in this case by Dr Mead and others.

To supply the omission, then, in those popular writers, might not the following directions be given on this subject? “When symptoms of
“poison appear, mix a tea-spoonful of any of
“the following articles:—Salt of tartar, salt of
“wormwood, pearl-ash, pot-ash, spirit of hartshorn, or of sal volatile, with half a pint of water; and of this let one half be given to the
“patient immediately, and the other in a short
“time afterwards. It will sometimes give great
“relief, and the vomiting will cease. That,
“however, is still to be promoted; and if it
“does not return on drinking warm water, &c.
“after waiting a while, it will be proper to give
“a vomit of ipecacuanha; or if that is not sufficient, one still stronger. After each vomiting, a dose of this solution of salt of tartar
“should be given, and it may repeated every
“two or three hours, especially if the pain of
“the stomach returns. It should be continued
“too in small doses for some time after the
“symptoms disappear. If none of these salts are
“at hand, a little wood-ashes mixed with boiling water will answer the same end, suffering
“them to stand till they settle, and pouring the

“ water clear off, or filtering through linen.
“ By tasting it, the degree of saltness will deter-
“ mine if the solution be strong enough ; if it
“ be not disagreeably so, it may be given.”

AT Liverpool, August 27. 1783, a young child of Captain Bibby's, playing in a neighbour's house, got to some Jacob's-water sweetened, placed there to poison flies, and drank so much as occasioned its dying the day after convulsed. As this poison is often used, and as similar accidents in consequence thereof are by no means rare, the following cautions may be useful. 1. If this poisonous mixture (which ought not to be indiscriminately sold) is to be used at all, it should be placed out of the reach of children, and mixed up in a manner dirty enough to disgust and deter any one else from a desire to taste it. 2. As soon as it is known that a person has unfortunately taken any of it, immediate assistance should be procured ; a vomit should be given directly, and salt of tartar, or pot-ashes dissolved in water, should be drank very freely.

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The poison sold under the name of Jacob's-water is sometimes arsenic dissolved in water ; but that properly so called is only a weak solution of corrosive sublimate ; and in that case there is the strongest reason to believe, that by taking a little of the above alkaline salt after it (and the sooner after it the better), if violent symptoms are not already come on, no danger whatever would ensue : and even if such symptoms have appeared, this is one of the most effectual means of relieving and removing them. And if the poison swallowed be a solution of arsenic, this would be one of the most likely means of guarding against its effects ; whilst at the same time it will not interfere with any of the usual methods of obviating the danger.

III.

Case of a Boy poisoned by the Root of the Hemlock Dropwort on the 9th of June 1781.

THE eldest son of the Reverend Mr Kirkpatrick, a dissenting minister, about nine years old, rambling with several other children in the fields adjoining to the Leeds canal, near Liverpool, gathered, and gave to the others, a number of the roots of the Hemlock Dropwort, which he believed were earth-nuts, and of which he eat a much greater quantity than the rest. As he was returning home he grew giddy; and if he had not been prevented, would have reeled into the canal. His inability to direct his motions increased gradually, and he was soon affected with stupor and convulsions. His mother, apprised of his situation, speedily came to him, and immediately, as she said, conceived the idea of his having eaten something, the effects of which were similar to the poison administered to Sir Theodosius Boughton, till which time no such thing

thing had been apprehended. Some water out of the canal was given him to drink, and he vomited a considerable quantity of the root he had swallowed: he, however, grew worse, raved, became heavy, and convulsed, and was carried into a house adjoining. Mr Shertcliffe, a surgeon in the neighbourhood, was sent for; who, with a view to evacuate what he had taken, gave him a solution of emetic tartar, and a purgative glyster.

HE had swallowed at least twenty grains of the tartar emetic when I was sent for to him about eight in the evening. I found him quite in the epileptic state, with the pupil of the eye vastly dilated, total insensibility, and all the appearance of a person in the last degree of intoxication. Convinced, that unless the contents of the stomach could be expelled, no hope of his recovery remained, I gave, in solution, a scruple of white vitriol, most part of which was got down.

THE convulsions for some time past had been strong and frequent; they seemed to begin with an effort, as it were, to vomit (though after he got into the house he never vomited in the least). The head was drawn to the right side, and thrown

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back,

back, general spasms succeeded, the eyes started prodigiously out from the sockets, and the tongue was thrust out and forcibly bit. Some æther was sent for; and I poured a small quantity into the mouth, on the temples, &c. It was thought at times to relieve the fits, which interrupted the circulation so as to render the pulse imperceptible, and often to give reason to suppose it was irrecoverably stopped. In this manner, however, the scene was closed at last, rather placidly, about ten o'clock at night, after he had suffered thus above four hours. The respiration, though slow, continued tolerably easy almost to the last. The glyster operated a little before he died, and a very offensive stool followed.

NOTWITHSTANDING the boy had thrown up a considerable quantity of the root, yet I had no doubt, but that such a part of what he had eaten remained in the stomach, as would render every effort to save him ineffectual. The event unfortunately answered my expectation, and dissection confirmed the truth of the conjecture. Mr Shertcliffe found in the stomach above an handful of the root; and noticed, very sensibly, the smell peculiar to it the moment he cut into the cellular

lar membrane, though it was not twenty-four hours after death.

It was at first supposed, that what the boys had gathered and eaten was the water-parsnip; and afterwards, that it was the water-hemlock. Indeed Boerhaave, in his *Historia Plantarum*, under the article *Sium* (water-parsnip), commends the first species for its aperient, emollient, and detergent qualities; but adds, “that he never had dared to administer it, from the resemblance which it bears to the second species, the *cicuta aquatica*, of which those who have eaten, unless relieved by vomiting, died dreadfully and singularly convulsed.” The latter (the water hemlock), which is extremely poisonous, is frequently confounded also with the hemlock dropwort, the plant now spoken of; which is equally dangerous, and is termed by Lobel, Ray, and others, *œnanthe cicutæ facie*. This, however, it is certain, was the one pitched upon by the boy who with difficulty recovered, as the root he and his companions had eat of*.

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* In June 1746, Dr Watson communicated to the Royal Society an account of several French prisoners poisoned at Pembroke by the hemlock dropwort; but “he found persons were not sufficiently apprised of the danger from that
plant,

FOUR of the other boys in company had partaken, though more sparingly, of the noxious repast; but on the first alarm, vomits having been exhibited, they all escaped. One, however, was with difficulty made to vomit, though he took largely both emetic tartar and ipecacuanha; and he was affected with giddiness, drowsiness, and twitchings so much, that for some hours his recovery remained doubtful. He told me he had eat one root and an half; and more than two hours had elapsed before he was sensibly affected by it.

THIS unfortunate accident, as well as the one which was lately the subject of a judicial discussion, proves how fatally certain is the effect of the poisons of this class. These vegetable poisons do not, like the mineral ones, become fatal by producing inflammation of the stomach; though at first they stimulate, and endeavour to promote their own discharge, yet their baneful
action

plant, notwithstanding this account had been published in the Philosophical Transactions and the public papers; and therefore, in the 50th Volume (1758), he gives another instance in the case of — Mildane a cabinet-maker of Havant in Hampshire, who took about five Spoonfuls of the juice of this root instead of the water-parsnip, and was soon after seized with vomiting and convulsions, in which he immediately died."

action is solely on the nervous system. Like to opium, or spirits, they bring on such a degree of insensibility, or as some suppose of spasm, as wholly to destroy or counteract the power of the stomach to expel them, whilst their continuance there must inevitably prove fatal. Whereas many mineral poisons may be decomposed by any alkali; and even the danger from drinking spirits, may be greatly lessened, by conveying into the stomach (by means of a pipe passed beyond the glottis) large quantities of water to dilute them, after the power of vomiting as well as swallowing is lost. (See two papers * which I drew up on this subject, and which are inserted in the *Edinburgh Medical Commentaries*, Vol. VI. page 325. and in those by Dr Duncan, Part III. 1780.

To render a poisonous vegetable in the stomach, which cannot be evacuated, inactive, is what we are yet unequal to:—to dilute it would probably be at least a vain attempt, if it did not (by the liquid acting as a menstruum) elicit, and render more active, the poisonous quality;—and, unfortunately, to evacuate it after it has remained long enough to produce, in a certain degree, its effects on the stomach, seems next to impossible. We should, however, when there is the

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least

* See N^o II. and IV.

least ground to suspect any thing of this kind, immediately endeavour, by an active emetic, to evacuate the stomach whilst there yet remains a possibility of doing it. On the early exhibition of a vomit in such cases depends its operation; and on that only, perhaps, the security of the patient.

IV.

On the Mode of assisting Persons dying from drinking Spirits.

MANY persons are destroyed suddenly by drinking large quantities of spirits. Their first effects are stimulant; they quicken the circulation, and occasion much blood to be thrown upon the head. They afterwards prove sedative; they bring on stupor; loss of reason, total; of motion and sensation, almost total. Their effects may be partly owing to their entering, in some degree, into the circulation; but depend chiefly, when violent, on their action on the nerves of the stomach. In consequence the brain is affected, and the nervous influence suspended, if not destroyed. All the parts of the body therefore partake of this insensibility. As the skin in some cases may be burnt even without feeling, so the stomach and intestines may be stimulated considerably without any effect. The motion of the heart and lungs is much enfeebled and in-

errupted, but continues irregularly till death ensues.

To rescue the person from so dangerous a state is extremely difficult. To counteract these effects by medicine is less likely, both as the power of swallowing is lost, and as, probably, little or no absorption then takes place. But we ought to endeavour, 1st, to evacuate the poison; or else, 2dly, to dilute it, and thereby weaken its action. With a view to the first, brisk vomits may be given; but, from the want of irritability of the stomach, these often will not act, unless given early, when they are of great service in case of intoxication. A dock porter, who died in the Liverpool Infirmary February 28, 1780, got down, over night, nearly 12 grains of emetic tartar dissolved; yet it produced little or no effect, though he lived till the next day. Purges are also proper, but liable, though in a less degree, to the same objections. Sharp glysters may be administered, and will produce some evacuation, but their operation does not extend far enough. Large glysters of water only, or of water in which purging salts are dissolved, thrown up with some force by a syringe, might be of more service.

OIL has been advised to be given, to help to evacuate the spirit, or to weaken its action.— But when the inactivity of the stomach is become so great, and the danger so pressing, there seems more reason to expect success from largely diluting that poison, which we in vain attempt to evacuate. When intoxication has been produced by drinking strong liquors, large quantities of water, or weak liquids drank, are found to lessen it very considerably. And though the power of swallowing be lost; yet by means of a pipe (as a flexible catheter) passed beyond the glottis, or even down into the stomach, water might be poured in, in such a quantity as was judged sufficient to dilute and carry off the liquor in the stomach. To the water might be added, with advantage probably, vinegar, or any kind of acid; or purgatives might be dissolved in it, to facilitate the poison's passing off by the intestines. A pipe of this kind, too, would afford the best method of introducing substances into the stomach to promote vomiting.

PUTTING the body into a warm bath, or the legs and feet in warm water, will be of use, by lessening the quantity of blood accumulated in the head and in the larger vessels; and some of the water may perhaps be absorbed. With a
view

view to relieve the oppression, bleeding, and opening the temporal artery, are advisable. If the pulse is found to become freer and fuller on losing some blood, more may be taken away. Blisters may also be applied with advantage.

THE coldness of the extremities, and the evident difficulty with which the circulation is kept up, point out the propriety of assisting it by warmth and friction applied to the skin (as in recovering drowned persons). Motion, to prevent sleep, may probably be serviceable in such cases. Great care should be taken to loosen the neck-band, garters, and every kind of bandage, and that the body should lie in a natural, easy, posture ; on the side is perhaps better than on the belly, though that has been recommended, that the stomach might the easier discharge its contents. The breathing should not be obstructed, nor the neck lie low or in a bent position.

V.

Observations on Canine Madness.

WHEN men of undoubted professional knowledge, candour, and humanity, stand forth to destroy the public confidence, in a matter of such moment as a preventive for madness, this can only be supposed to arise from a thorough conviction of the inefficacy of the means proposed, and an ardent zeal for the cause of truth. Well aware that they are hereby depriving numbers of that great cordial, hope, and reducing them to a state of horror and apprehension, little short of that which they wish to guard against, nothing but a desire of obviating the fatal consequences of an ill-grounded confidence and of exciting the endeavours of men of science, to discover more certain remedies than are yet known, could induce them to take such a step.

Dr Fothergill, in the case of Mr Bellamy, and
Dr

Dr Vaughan of Leicester, in three cases which he has published, have fully proved, that all the methods recommended for that end are insufficient for the cure of the hydrophobia, when once commenced. The patients all died in the course of one or two days from the appearance of this symptom, notwithstanding the most attentive and judicious treatment. From these cases, they conclude, that no dependance is, in reality, to be placed on the Ormskirk medicine, before so much confided in; and they have each declared their opinion, how doubtful and uncertain, not to say useless, are all the other methods hitherto proposed, to prevent the ill consequences sometimes resulting from the bite of mad animals. The attempt, then, to recommend and enforce a plan of treatment, agreeable to reason, and supported by experiment, must meet with approbation, and may be productive of essential service to society.

MAY it not very easily happen, that a remedy, the gradual exhibition of which may prevent the attack, would prove wholly insufficient for the cure of the hydrophobia? Or is the inference just, that because the action of mercurials, applied for three or four days at most, will not cure the disease in its last hasty stage, the same remedy
would

would have been of no avail in the interval between the bite and the attack, which was (in these cases) of one, three, and nine months? During that period, a gradual and sufficient action of the mercury might have been excited; whereas, when the hydrophobia has appeared, there is scarcely ever time for any such effect. There is some reason to conclude, too, that under certain diseases, the system is less capable of being acted upon by mercury; which, though applied in large quantities, seems then not to produce its usual effects.

I mean not to dwell upon the reasonableness of a practice, in which the action of the remedy is principally determined to the part where the virus chiefly exerts its baneful powers, viz. the Salivary Glands; nor yet upon the authority of the late Dr James and the celebrated Sauvages, who have largely insisted on the beneficial effects of mercury, to prevent the dangerous consequences of the bite of mad animals. Not to swell this paper to an improper bulk, I purpose only to give a brief account of a pamphlet, published at Paris by order of government, intitled, "*Methode éprouvée pour le traitement de la Rage*"; wherein we are informed of the success of a mode of treatment, of which mercurial inunction is the
basis

basis and most essential part, laid down by Monsieur de Laffone, first physician to the King of France, and tried in eleven out of fifteen persons dreadfully bit and torn by a mad wolf on the 8th and 9th of December 1775, within twenty-four hours of each other. Three of these unhappy people, trusting to powdered oyster shells, and similar remedies of no use, were not subjected to this treatment, and died in a few days raving mad; as did also a young woman, who did not apply for relief till two days before she died, and after the symptoms of hydrophobia had commenced.

THE remaining eleven were, by the States of Macon, near which place the accident happened, put under the care of a physician of Cluny, Monsieur Blaise; and the account he gives of the success attending the method of treatment pursued, of which a summary is subjoined, is as follows:—One man, who for ten days exactly followed the plan laid down, whose wounds, though very large, suppurated well, and were in a good state, and in whom the mercury seemed to begin to act, became melancholy, was seized with a horror and dread of liquids, and died within forty-eight hours afterwards, though placidly in his senses, and without being convulsed.

—A second, whose mouth and gums had been slightly affected by the mercury, which he used near a month, grew delirious and furious ; and after experiencing the symptoms of hydrophobia for two days, died comatous. This man, however, it was found, had privately drank very large quantities of wine for three days together preceding his delirium ; and it is supposed this contributed greatly to his death.—A third, a boy, who continued the use of the mercurial frictions and antispasmodic medicines for eighteen days, and was doing well, being removed home by his friends, died there three weeks after, as is believed, only from the wound in his head not being taken due care of, and not from madness, as he drank freely an hour before his death.—The remaining eight recovered, although one of them during the course became sad and melancholy ; and another, a woman, delivered of a child during the time, manifested an aversion to liquids. Salivation took place in most of them ; upon which, gradually excited, (though they endeavour to guard against it by repeated purging), depends, most probably, in such cases, the only rational hope of security from canine madness.

Dr Blaise adds, that “ the treatment was continued,

“tinued, in all, above a month in the eight who
 “got well *, six of whom had been grievously bit
 “in parts not covered with the cloaths ; and that
 “most of them experienced, nearly at the same
 “time, symptoms of nervous affection, which
 “might be attributed to the virus too much at-
 “tenuated and weakened by the remedies, to
 “produce a manifest accession of hydrophobia.”
 He concludes with these judicious remarks, “It
 “is most certain, that the remedies we have em-
 “ployed have been very successful: but they
 “would have been much more so, had they
 “been used early; and particularly if, almost
 “immediately after the bite, those external
 “means had been made use of, which appear
 “to me indispensably necessary, viz. deep sca-
 “rifications, cutting away the lacerated parts
 “and those adjoining to the wounds, the caute-
 “ry, applying cupping-glasses, and establishing

* In the history of the Royal Society of Medicine at
 Paris, vol. ii. we are informed by Monsieur Blaise, that,
 of these eight, one died with hydrophobia six weeks after
 he was discharged apparently well; but it appears that,
 four days before this attacked him, he had passed his arm
 down the throat of an ox believed to be mad, though the
 man is not said to have been bit by it. Monsieur Blaise
 also mentions his having since successfully treated two other
 children in this method; whereas a third, bit by the same
 dog, and not so treated, died mad.

“ a copious suppuration, for a long time, in the
“ part bit ; because it sometimes happens, that
“ the saliva is lodged in the cellular membrane,
“ where it remains, as it were, fixed and inert,
“ till, brought into action by some cause, it en-
“ ters into the circulation, affects the nerves, and
“ produces the train of symptoms of this most
“ terrible of diseases.”

It now remains only to give the mode of treatment proposed ; which I wish to do as concisely as I can consistently.

AFTER opening the body by laxative glysters, bleed once or twice, especially if there be any symptom of madness, or any wildness in the looks : use morning and evening, for an hour, a warm foot-bath, or, if it can be had, a warm bath : wash the wound repeatedly and long in warm water, in which common salt, or rather sal ammoniac, is plentifully dissolved ; making at the same time deep scarifications, cutting away lacerated parts, or, which is preferable, (when it is an animal which is bit), applying the actual cautery. This done, rub a drain of mercurial ointment lightly round about the wound, which may be dressed twice a-day with basilicon or digestive, washing it each time with the salt and water.

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The mercurial ointment, however, is only to be applied once in twenty-four hours, and in the above dose. The body must be daily kept open by glysters, to which add one spoonful of honey, and two of vinegar ; every four or five days a gentle purge is given, to prevent salivation. To excite vomiting once or twice will be of service, especially at the first, if there be frequent nausea or inclination to vomit. Once, or, if no inconvenience follows its use, twice a-day, morning and evening, give a spoonful of wine, with twenty or twenty-five drops of eau-de-luce, to promote a gentle sweat. Let the patient take every day four grains of camphor, two grains of musk, and six grains of nitre, made into a bolus with honey. In case of great restlessness and want of sleep, give, in a moderate dose, an opiate ; but do not repeat it several successive days. The patient ought freely to use diluting drinks, mixed with honey and vinegar ; but should the Hydrophobia already have come on, these and the foregoing medicines may be administered in glysters. The food should consist chiefly of vegetables ; but milk is to be avoided. This mode of treatment must be continued till the wound is healed firmly ; a month at least, and longer, when the wounds have been considerable, or any symptoms have manifested themselves. Should the

the

the wounds put on a bad appearance, give the bark in strong decoction; as also where great weakness and languor remain. Useful animals, when bit, may be treated nearly in the same manner, only a triple quantity of the mercurial ointment should be employed. They should be kept up from mixing with others; and on the appearance of any symptoms of madness, they should be immediately destroyed, as ought also dogs and animals of less use, without hesitation. Thus far Dr de Laffone.

SEVERAL strong proofs of the success attending the use of mercurial frictions are inserted in the second volume of the Memoirs of the Paris Royal Society of Medicine; of which the instances given by Mr Odoardi deserve particularly to be noticed. Of nine persons bit by a mad wolf, one (treated by another surgeon, but not with mercurial frictions) died of the hydrophobia the twenty-fourth day after. The eight others who used this remedy under that gentleman's care all did well. He mentions several instances which have fallen under his care or notice, in which mercurial frictions on the wounded part have preserved the patient from all danger, sometimes without producing salivation. Notwithstanding this success, however, he esteems it the surest

method to excite a slight degree of salivation ; and perhaps this will be found to answer best, *when attempted soon after the accident*, and brought about not too hastily.

VI.

On the Effects of Mercurials in the Cure of obstinate Dysenteries.

IT would seem, at first sight, that no medicine was less adapted to the cure of Dysentery than Mercury; and yet the following cases, which, having occurred in the Public Infirmary at Liverpool, were seen and known by numbers, will, I flatter myself, evince, that the application of it, in certain circumstances, is founded in reason, and justified by success.

I. WILLIAM BROWN, a seaman, who had remained above two years on the coast of Africa, was admitted an out-patient of the Infirmary May 23, 1776, for a Dysentery which he had laboured under for two years past, and for which he had taken a variety of medicines without obtaining any benefit. He was a stout made man, about forty-eight years of age, but had a very fallow complexion, and a prominent belly, the

region of the liver being enlarged, and, on pressure, painful. These, together with the flux, he himself imputed to his having been poisoned by the negroes, though he had no idea when or how. On inquiry I found, he had had an intermittent fever of long duration in the hot climates, and from that period his health had declined: His present complaint began on the coast with costiveness, attended with loss of appetite, vomiting, violent pain of the belly, shivering, and fever. When, after five days, a stool was procured, he seemed somewhat relieved at first. A looseness however succeeded, with gripping pain, tenesmus, slimy and bloody stools. From this time his appetite continued tolerably good.

THE most probable, and usual, means of putting a stop to the dysentery were ordered, and persevered in near eight months; but finding that, during all that time, the disease was little relieved, and that only sometimes for a short space, recurring again with its usual violence very soon, I began to consider, that *it might very probably take its rise from a diseased liver*, and a consequent irregular secretion of bile. If that were the case, it was not likely that the flux should be got the better of, unless the affection
of

of the liver on which it depended was first removed. With this view, having admitted him an in-patient, January 16, 1777, I directed the mercurial inunctions to be gradually applied; and as no increase of the dysenteric symptoms followed their use, they were continued (a fortnight) till the mouth was affected, and a moderate salivation came on. When this took place, his stools became less frequent, more regular, natural, and free from blood. By the time it had ceased, he thought himself freed from all his complaints, and, at his own request, was discharged, February 27. though I told him then, I was apprehensive that his disorder would return, and a repetition of the course be requisite.

A fortnight after, (March 13.), he applied again for admission: his appetite was impaired, his gripings violent, his stools very frequent and bloody; his belly, about the region of the liver, was swelled, hard, and painful. After promising a few gentle evacuants, the inunctions were repeated. For some days he was no better; and being rather feverish, the mercury was omitted for a week, and then resumed. April 4. ptyalism was produced: he was then very easy in his belly, his looseness was almost stopped; and

he said himself he was much better than ever he had been since the beginning of his illness. The mercurials, after a little respite, were continued some time longer; and on May 8. he was discharged perfectly well, and so remained.

2. September 23, 1779. William Martin, an Irish mariner, twenty-eight years old, meagre, of a fallow, bilious complexion, was admitted an in-patient of the Infirmary, for a Dysentery of six years standing. He had spent much of his life in the warm climates: seven years ago he had lain nine months upon the coast of Guinea, and a little before that, had remained there two years at one time, during which residence he had had the flux. It began again in December 1773, at Boston; and had continued from that time, almost without intermission, in spite of every attempt to cure it. For that end, he had been in an hospital in Charlestown, South Carolina; and on his return to England, was six months in Guy's, and after that three months in St Bartholomew's Hospital, London; from thence he went into that at Cork, and afterwards into those of Gibraltar and Minorca, where he was discharged from the navy as unfit for the service. In these he took decoctions of logwood, decoc-tum album, rhubarb, and a great number of
other

other medicines ; but found no benefit from any, except lapis calaminaris boiled in milk, and from the dry vomit * ; both of which checked the purging, though but for a short time, not more than twenty-four hours. He was forced to live almost wholly on milk. His stools were attended with much griping pain ; they were bloody, but not always so. He was also troubled with the piles.

As such various means had been used under the direction of so many able practitioners, I thought it unnecessary to attempt to succeed in his cure by the usual remedies ; and determined to try what mercurials would do. It is true he had no sensible enlargement of the belly ; but I was induced to have recourse to the inunctions, from recollecting the great benefit I had experienced from them in the preceding case, from the long duration of the disease, and the inefficacy of every remedy which had been administered.

* The dry vomit (recommended by Dr Maryatt) is composed of tart. emet. and vitriol. roman. aa. p. æq. Five grains is given as a dose upon an empty stomach, and without any liquid to assist the vomiting. It generally operates easily, and evacuates much bile, without relaxing the stomach. After its operation, a spoonful of brandy is given ; and if that comes up, a second, to remove the inclination to vomit.

ed. His complexion was very bilious, and had been so much so, long before I saw him, that he was supposed to have the jaundice; some had concluded that he was poisoned on the coast; others, that he was in a consumption, as his flesh and strength declined much, though he had no cough, nor any pain in the breast.

I ordered him then to rub in half a dram of strong mercurial ointment, equal parts, every other evening; which he continued to do till October 9. when ptyalism was produced, which lasted ten or twelve days very copious. During this time he took only the decoctum album and Castile soap. In three days after the spitting began, his flux stopped, his stools were natural, not more than one or two in twenty-four hours, and without any griping. He had, however, a very acute headach; which gradually went off; and by the end of the month he could eat broths, and other things, which before this time used to render the complaint violent, without any inconvenience.

STILL the purging returned at times soon after, though not with the former violence; and he took the dry vomit, rhubarb, and lapis calaminaris, to little purpose. At his own request, therefore, he began again with the inunctions,
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November 25. which excited salivation in less than a fortnight, and seemed to have carried off the complaint; but as the stomach and intestines were greatly debilitated, I gave him, at different times, the sal martis, bark, and some astringents. Towards the end of January 1780, he had a rheumatic attack, which he ascribed to cold from changing his room, but which yielded soon to the decoctum guaici. The middle of February he was attacked with a slight tertian ague, to which he had been subject before, but which went off in a few days. In the beginning of March he was free from both, and signified a desire of going to sea.

THE account he then gave of himself was this. Of stools, he had two or three in twenty-four hours, easy and natural; sometimes more costive than he wished on account of his hemerrhoids. Perhaps, once in a fortnight, he had a purging which continued about twenty-four hours. His appetite was poor; but what he eat (in which he was not very cautious) sat easier upon his stomach, and agreed better with him, than it had used to do; and his health and strength were much better than at any time since his disorder began. I consented to his going a short voyage; and his intention is, if the looseness return, and
further

further assistance be necessary (which it probably may), to apply again, and try the effect of another salivation *.

3. Gaspard Peter Finch, a German, twenty-two years of age, having been a voyage to Jamaica, after staying there about half a-year, came in a vessel to Liverpool, where he applied for admission into the Infirmary, October 14, 1779, for a Dysentery, which began during the passage, and had continued about three months. He was much emaciated, had a fallow, bilious, complexion, but no apparent enlargement or increased sensibility of the viscera. I gave him the usual evacuant and astringent medicines, which he continued to take for three months, with but very little advantage, and that not permanent. Finding this to be the case, I proposed to him to try a mercurial course; to which he was persuaded by the last-mentioned patient. He began to rub in half a dram of the strongest ointment every night; and continued so to do for a month, when it was discontinued on account of his having a tertian ague, of which he had had an attack before, since his admission in-

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* I never saw more of this man; but have reason to believe he got well, having been seen long afterwards apparently in good health.

to the Hospital. It yielded, as did the former, to an emetic before the cold fit, and an opiate in the beginning of the hot one. I suffered it, indeed, to go on for a few days, as thinking it might possibly be of some service. No salivation had taken place; but his stools were regular, without pain or blood, and not more than two in twenty-four hours. He left the Infirmary at the end of February; and I met him a fortnight after, when he informed me he was perfectly well, and going to Barbadoes in a vessel from this port.

THESE are the only cases of which, as they appeared new and important, I had noted the particulars; but I am assured by Mr Richard Audley, a very intelligent surgeon in London, who attended our Hospital five years with great diligence, that some others of the same nature, treated by me during that time in this method, have succeeded equally well. Though the accuracy of his observation is much to be depended upon, yet, not being able at this distance of time to recollect the circumstances, I omit taking further notice of them.

INDEED I have found in many instances, where, after a residence in the hot climates, the
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liver has been obstructed and enlarged, that very great benefit has been obtained by the gradual and prudent use of mercurials, and that sometimes from much smaller quantities than one might expect. A case of this kind occurred some time since. A gentleman, who had spent some years in the West Indies, returned to England on account of his having long laboured under a bad state of health, which was not at all improved during the voyage home. He applied to me soon after his arrival; and as it appeared clearly that the liver was affected, I put him upon the mercurial inunctions. After he had used them a few times, he had occasion to go a journey of three or four days, and was desired to omit the mercury; which he did about a week before he sat out. By the time he came to the end of his journey, however, he found himself much better, and was very soon surprisingly recovered.

WE frequently meet here with persons returned from the coast of Africa, with pale, fallow, bilious complexions, prominent bellies, loss of appetite and strength, swelled legs, and general ill health. They grow gradually worse, and die, at length, emaciated and dropical. They suspect, and others conclude, without foundation, that

that they have had a slow poison given them privately by the negroes. But these evils, which are wrongfully attributed to the natives, are only caused by the climate. Inquire of these poor objects, you will generally find they have had a fever (an intermittent) or the flux in the Torrid Zone: examine them, and you will frequently perceive that the viscera are enlarged and indurated. This is the true cause of their bad state of health; and the remedy for it, in the opinion of the ingenious Dr Lind, Dr Clark of Newcastle, and others, is to be looked for in mercurials. I have repeatedly seen great good effects in such cases from a salivation; and where that has relieved but in part, a second, or even a third, being excited, has succeeded well.

THE practice now recommended, I apprehend, has been sufficiently experienced to justify a trial of it. Success in a number of cases can alone establish its propriety.

IN the foregoing Paper, I have made cursory mention of two remedies I have often found of great

great use ; and to the beneficial effects of which I wish to bear more ample testimony. And I conceive it would be rendering service, both to the faculty and to the community, if those of the profession, who have had frequent occasions of observing the good effects of any particular medicine, or mode of treatment, would embrace such opportunities as may offer, to communicate and recommend it to the public ; especially when such remedy or practice is not generally adopted, which I believe is the case with those of which I am now speaking.

THE dry vomit, as I observed above, is a composition of equal parts of tart. emet. and vitr. roman. A quantity of it is mixed at once ; and the dose of this mixture commonly given, is five grains, on an empty stomach, in about half a meat-spoonful of water. The patient is directed to drink nothing after it. In a short time after swallowing it, sickness is produced, and a quantity of bile is generally thrown up. To take off the sickness, a spoonful of brandy, or of any spirit, may then be given ; and if that should come up, a second.

THIS was a favourite medicine of the late Dr Maryatt ; whose practice, to judge from the ac-

count he himself gave of it, appears more empirical than rational. I own, I entertained very great doubts of the propriety of giving, in common, two grains and an half of emetic tartar and the same quantity of blue vitriol as a vomit; having seen several instances of violent vomiting produced by a much smaller quantity of tartar emetic alone, particularly in the present Earl of Arran; to whom, when at Naples, I gave a single grain (prepared at Apothecaries-hall, London), which operated to a degree extremely alarming and distressing. I did not choose therefore to make a trial of the dry vomit, till I was assured by a gentleman of great ingenuity and veracity, who had given it to several, and even taken it himself, that its operation was far from severe. Since then I have given it in a great variety of cases; and it has acted so mildly, that I scarcely recollect an instance where it was complained of as too violent; but I have met with several wherein five grains were not sufficient to produce any effect; and where I have found it necessary to increase the dose to seven or eight grains of the mixture. The reason why the compound acts more mildly than one of the ingredients would do alone,—whether some decomposition takes place on their being combined together,—is not easy to ascertain. But it is sufficient

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ficient for medical purposes to know, that it is not only a safe, but even a mild, vomit.

THE nature of the disease, or the state of the stomach, may often render it more eligible to give a dry vomit. It is the stimulus to the whole system from the action of vomiting, which, in many cases, we would wish to excite. In this respect, and in evacuating bile, the dry vomit answers the same purpose as sea-sickness. Drinking largely of warm water after taking a vomit, as is commonly practised, besides lessening these effects, tends to leave the stomach in a relaxed state; and thus may frequently do as much harm as it was expected to do good.

A practice of which I have great reason to speak well, and which I should wish also to recommend to the notice of others who may not have experienced it, is that of the ingenious Dr Lind in the cure of intermittents—the giving a vomit an hour before the cold fit, and a sufficient dose of tinct. thebaic. half an hour after the hot fit commences. In many intermittents of long continuance, both tertians and quartans, I have known this method succeed to put a stop to them the very first time it was made use of. But though this will often not be the case, and it
will

will be necessary to repeat the tinct. thebaic. on each accession of the hot fit, and to increase the dose of it; yet the great relief it occasions, and the gradual diminution in the strength of the fits, are strong inducements to persevere in the use of the remedy, till they are completely removed. That this will be the consequence of such perseverance; even where no other medicine is exhibited, experience will evince. I very rarely indeed have had occasion to recur to the bark for the cure of agues; though I sometimes give it after the complaint is removed; with a view to strengthen the habit. Indeed, we receive into our Infirmary numbers of the poor Irish, returning home from the fens after harvest, labouring a long time under agues, having begged their way, half starved, and greatly debilitated. In such, a cure is not to be looked for till they are a little recruited, by enjoying, for some time, the necessaries and conveniences of life, to which they have long been strangers. It is easy to observe the gradual good effects produced in them by better living only. To persons in this situation, I sometimes give, with advantage, a glass of spirits a little before the paroxysm. I remember, many years ago, seeing a German soon cure himself of an obstinate ague, by drinking every morning a glass of brandy, in which a small

quantity of myrrh, aloes, and saffron, was infused; and it proved equally successful in some cases of long standing, where I recommended a trial of it after the bark had failed. To the spirit, however, I conclude, the success is chiefly to be attributed. I have also given twenty drops of tinct. thebaic. before the cold fit, and the same quantity during the hot one, in some cases, with evident advantage.

THERE is one circumstance more I should wish to mention, now I am upon this subject. It is a case of accidental recovery in one of those poor Irishmen, whom I had taken into the Infirmary, labouring under an ague of long continuance, anasarca, extreme debility, and emaciation. His complexion was very fallow, and his belly prominent; the effect, as appeared on examination, of enlarged and indurated viscera; a frequent consequence of agues amongst those who live in low, marshy situations, to which they give the name of the Ague-cake; and which, together with the subsequent ill health, is often wrongfully attributed to the use of the bark. I tried the above, and other means, for some time, without any permanent good effect. The ague indeed would stop for a while, and the patient seemed to acquire a little strength; but he
soon

soon relapsed. At length it happened that mercurial inunctions, directed for another patient, were, by mistake, given to him. He had used them only a few times, when, to my great surprise, I found him in a salivation. I was the less dissatisfied at the mistake, as I thought it probable he might thence receive essential benefit: and the event justified my opinion, for the man soon got quite well. An instance this, which might be adduced as a further proof of the good effects of mercurials in cases of obstructed viscera; tho' such was the degree of weakness of this patient, that however desirable a mercurial treatment might have appeared, few practitioners would have ventured to advise it for a man so extremely reduced: and though the event was favourable, it would scarcely be a sufficient justification for adopting so hazardous a practice in similar circumstances.

Two cases, which have fallen under my care in the Liverpool Infirmary since the first publication of this paper, tend, in my opinion, very

forcibly to confirm the propriety of the mode of treatment therein recommended: the latter of which particularly refers to the instance of accidental recovery by salivation just recited.

I. DANIEL LEONARD was admitted an in-patient August 25, 1785. He was a seaman, thirty-three years old; and had been attacked by the flux, followed by the ague, in the West Indies, six months before; and from that time had remained subject to frequent irregular attacks of both complaints.

THOUGH examination did not furnish any certain proofs of *enlarged or diseased viscera*, yet his general appearance confirming me in the idea, I strongly suspected *that* to be the original cause of his ill health. In consequence, I proposed to him to undergo a mercurial course. The inunctions were ordered for him; and during the use of them, he seemed daily to grow better and stronger, insomuch that, before his mouth was affected, he was, at his own desire, discharged, freed from all his complaints, in less than a month.

II. IN the latter case, the enlargement of the liver was very evident indeed. George Jackson,

a seaman, twenty-six years of age, returned from the hot climates, applied for admission October 27. 1785, having an irregular intermittent, which, though it frequently left him for a short time, constantly returned, and had done so for seven months. The case was too clear to hesitate about; and having explained to him my intentions and expectations, I ordered him to rub in upon the belly a dram of the mercurial ointment (equal parts) every other night.

HE had only used it three times when a salivation commenced, so rapid and so violent, as to give me concern for having been, unintentionally, the cause of so much inconvenience to the man: but I comforted him, and myself too, with the hope that he would, by this means, be relieved at once from all his complaints; and this was so much confirmed by the event, that when the salivation had subsided, and the poor fellow's strength was recruited, he left the Infirmary, Dec. 1. 1785, perfectly well.

A P P E N D I X,

VII.

A remarkable Instance of a Patient's Recovery, after taking a very large Dose of Corrosive Sublimate.

A CASE fell some time ago under my notice, which affords, in my opinion, a very striking proof of the advantages to be expected from alkaline medicines, speedily administered, and steadily persevered in.

April 9. 1785. A ship-surgeon in Liverpool, at one in the morning, mixed six drams of corrosive sublimate in a tumbler glass of water, drank it; and as some remained at the bottom of the glass, he rinsed it twice with water, which he also swallowed. Something less than two drams of the sublimate remained at the bottom of the glass;

glafs ; but he certainly took about half an ounce.

He repented almost immediately of what he had done ; drank plentifully of warm water ; and three quarters of an hour afterwards, took three tea-cupfuls of oil. He soon vomited ; and proper assistance was expeditiously procured.

A solution of salt of tartar was very judiciously exhibited, and continued during the day, when it was thought eligible to remove him to the Infirmary.

His sufferings were great, and aggravated by his anxious desire of life : his discharges upwards and downwards very frequent, and mixed with a good deal of blood.

In consultation at the Infirmary, the plan fixed upon and pursued was, a continuance of the solution of an alkali occasionally by the mouth, and the same thrown up forcibly in a large clyster ; and, in like manner, the *tinctura thebaica* : neither of which, however, were long retained *.

For

* Besides these, the warm bath was used three times ; fomentations were applied to the stomach ; and, before his admission into the Infirmary, a single dose of ipecac. (Eij.) had been given.

For the latter, the opium in substance was substituted; and for the alkaline salt (the next day); the calcined magnesia*: for he manifested a repugnance to the solution of salt of tartar (as he has since told me) solely on account of its nauseous taste; and it also seemed to cause some irritation of the stomach, which was soon followed by vomiting. Disagreeable sensations, no doubt, but of little consequence, and scarcely meriting attention, where the object is of such magnitude as snatching a victim from the jaws of death. Nor is it at all probable, but that the same, and even greater, degrees of pain and irritation, must have arisen from the mere action of the sublimate on the stomach, *in proportion as it dissolved*; which action would be prevented and counteracted by the alkaline solution, was it retained only for a moment.

ON a farther solution of the sublimate, a fresh exhibition of the alkali becomes necessary: and there does not seem to be *any well grounded objection* to its use under so sore and tender a state of the stomach; since, contrary to all reasonable

* He took near five ounces of salt of tartar in about 30 hours: it was then changed for the magnesia; and afterwards his vomitings were less frequent, but recurred occasionally for five days. It is observable, that not the least degree of ptyalism ever took place.

expectations, in less than a week he got perfectly well, and notwithstanding the hemorrhagy, did not feel any degree of uneasiness in the stomach or bowels.

HE left the Hospital soon afterwards, thoroughly sensible of the benefit he had received, and expressing himself penitent for the evil he had attempted.

VIII.

On the Duration of the infectious Power of Variolous Matter.

I HAD always concluded, that the matter of the small-pox preserved for a long time the power of communicating the disease; and I thought I could pretty confidently ascribe as the cause of a young gentleman's being infected, his sleeping in a room in which another had passed through the disease some years before, particular caution having always been employed till then to guard him against the attack of it. In order to ascertain how far these opinions might be considered as well founded, I have since made some trials with matter which I had preserved by me many years. I took it from two children of the late Prince Andrew Poniatowski, brother to the king of Poland, in whose inoculation I was employed in 1768, at Teplin, a country seat near Vienna. It was taken, some upon raw silk, and some upon a cotton thread, and had remained in
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my possession, in a bottle slightly corked, about thirteen years, when I employed it in 1781. A part of the silk was carefully applied to an incision made in the arm of a boy two years old. It produced a degree of inflammation, from whence infection might most naturally have been expected to ensue; but it did not: and on these appearances gradually going off, I inoculated him again a month afterwards with fresh matter, and he had the disease regularly.

THE year following, I introduced a small portion both of the thread and silk, moistened with the variolous matter in 1768, into incisions made in each arm of a girl four years of age. Every necessary caution was observed; but no effect followed, though the operation was repeated in the same manner a second time; and as the parents objected to my again inoculating the child, which I meant to have done with fresh matter, she did not take the disease till about a year afterwards, when she was attacked with it naturally, and got through it easily.

As particular attention was paid to these two cases, and as the matter proved unequal to communicate the small-pox, although the subjects were very capable of receiving the infection, I
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desisted from any farther trial ; and though the event turned out contrary to my expectation, yet it may perhaps be judged worth while to record the result of experiments, made with a view to ascertain whether or not variolous matter, after such a number of years, is still possessed of sufficient activity to reproduce the disease. For some years possibly it may* ; but these facts seem to demonstrate, that its power of communicating infection does not continue for so long a period as fourteen or fifteen years.

* I observe, that the author of a late work, styled Russia, speaking of the Kamtschadales, relates (Vol. iii. p. 159.), “ that they formerly inoculated their children for the small-pox by scratching the face with a fish-bone dipped in variolous matter. As this distemper made no appearance for a number of years, they neglected this salutary practice, when, in 1758. it was unluckily brought there by a soldier *who had been long cured of it.* This scourge of the human race then raged in so dreadful and fatal a manner, that it swept away two thirds of the nation.”

ix.

Some Remarks on the Hydrophobia; and on the Efficacy of the Ormskirk Medicine for the Bite of a Mad Dog.

IN consequence of the *Observations on Canine Madness* *, published in the former edition, having been favoured with some remarks on the subject from Dr William Batt, an English physician, the public professor of Chemistry at Genoa, a man of a most ingenious and studious turn, very attentive to whatever may contribute to the extension of medical knowledge, and the accuracy of whose observations may be very greatly relied on, I mean to subjoin here what he says upon the subject; premising;

I. THAT though I do not think (from every thing I have been able to learn respecting it) that (Hill's or) the Ormskirk medicine is possessed of powers adequate to counteract the effects

to be dreaded from the bite of a mad animal; yet in a matter of so very serious and important a nature, our opinion of the inefficacy of a remedy, so much extolled and depended upon, should never prevent our making use of it: for supposing it totally useless, yet it may properly be employed without neglecting any of the more powerful means of relief; and should the event still prove unhappy, the minds of all concerned would be better satisfied from the reflection that nothing likely to be of service had been omitted.

II. THAT with respect to the spontaneous hydrophobia, I saw an instance in which that disease took place, and proved fatal, where not the most remote suspicion of its being caused by the bite of any animal could be entertained; nor could it be accounted for by any means, unless it could be supposed to have originated from a pretty long exposure to intense cold. But whatever was the cause, death was the consequence in two or three days after the first appearance of this symptom.

— I missed a singular opportunity of making a rare observation on hereditary diseases, and on the communication of the canine mad-

ness. A dog covered a bitch a few hours before he became quite mad. The bitch was then, and had been, kept separate from other dogs, and proved with pup; but the master of her had neither patience nor courage to wait the event, and, unknown to me, killed her.

It is clear that the Ormskirk powders are not infallible; yet as they do not hinder the use of other remedies, nor have been found in any sense noxious, I should be sorry to see them abandoned. I think they were of great use here to Dr R——; who, some months after the bite, had, with some pain and inflammation of the wounded part, convulsive spasms to an alarming degree, and a sensible beginning of aversion to water, yet perfectly recovered. He was bled copiously, and bathed much; but took no medicine in which I should place any the least confidence, except the Ormskirk powder.

MACHARINI the finger, consulted me towards the end of last summer; and amongst many other complaints, assured me (and the people about her confirmed her story), that she had twice suffered a spontaneous hydrophobia, accompanied with extreme thirst. Each attack lasted 24 hours; the one happened in June

1784. the other in June 1785, and, as near as she can recollect, on the same day of the month. She is very nervous, subject to strong passions, and not free from obstructions in the viscera of the lower belly.

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Curfory Remarks on the Effects of some Poisons, and on the Hydrophobia ; extracted from a Letter from the fame Profefſor.

I THANK you for your *Observations on Poisons*, and am well pleaſed with your ſucceſs in caſes of Dyſentery depending on old liver-caſes ; in treating which, I certainly will follow your example the firſt opportunity. The action of poiſons, if well underſtood, might throw much light on practical phyſic ; but the various effects produced by them in various perſons, mix with our knowledge much confuſion. One at Paris ſwallowed an ounce, or more, of aquafortis ; the conſequences were, a ſuſpenſion of ſtools and urine many days without pain ; then a train of painful ſymptoms ; which, however, declining ſenſibly for near ſix weeks, gave hope of recovery, when the friend from whom I have the account loſt ſight of him. Another here ſwallowed leſs, I believe, than a drachm of aquafortis ;

fortis; and though soap and milk were pretty quickly administered, died in about forty hours. A person here chewed and swallowed five cantharides, and went about his usual business. Two or three hours afterwards, feeling a heat in his stomach, he applied to me to know if any mischief would ensue. I had him bled; and filling his stomach with oil, made him vomit; which he did pretty copiously, bringing up considerable quantities of membranes, which appeared to be the best part of the lining of the œsophagus and stomach. Half of his tongue was stripped. I ordered him to drink milk copiously, though I confess now without much hope: and a strangury coming on, I rubbed the pubes and perinæum with camphor, and covered all with warm fomentations. The strangury went completely off in less than two hours; and next morning he had an erection, which was not troublesome, nor continued above half an hour. He felt a soreness in the stomach for two or three days, but no farther inconvenience. How different this from the usual histories of those who have taken cantharides even in a much less dose!

WE have lately seen here one who, in the hydrophobia canina, had an interval of 16 or more hours, in which he drank, easily and without agitation,
large

large quantities of various liquors. Of nine persons in the same prison, bit by the same dog, one only was attacked with the hydrophobia; and he neither the first nor the last that was bit, nor the most wounded. He fell sick more than four months after the bite, was under my care, and died hydrophobous and convulsed, but without delirium. Not long ago a gentleman died here, who had resisted incredible quantities of arsenic. It seems he had taken, in eight or ten times, about one third of an ounce, without its producing the desired effect, or even bringing on such symptoms as to raise suspicion of poison. At last a whole ounce was put into a saucepan of broth, of which he drank a good cupful. I think he did not swallow then, at once, so little as half a drachm of arsenic, yet he survived four or five days. I don't, however, infer, from the irregularity and incertitude of the action of poisons, that we ought not, or cannot, counteract them. Perhaps even every poison may have its specific antidote, as simple as the poison itself; but till we know these, we must content ourselves with making the best use we can of the means we are possessed of, though generally imperfect. These you have well displayed in your account, &c. where you have very justly observed, that frequently life depends on a very quick

quick evacuation of the poisonous substance ; one of the first effects of which is to render the stomach paralytic. If people did but think of it, it would seldom be necessary to lose time in sending to an apothecary for an active vomit : a pinch of snuff, or a little powdered tobacco, would do the business.

F I N I S.

read Aug^t 5th 1795

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